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ABSTRACT

This paper describes an approach to school district planning that examines overall objectives, ongoing operations, values, performance criteria, performance outcomes, and costs. The method utilizes seven general data files to assess school district activities in terms of educational and economic criteria. These files consist of: three structural sets (overall objectives, activity definitions, and activity coefficients); two parameter sets (value assignments and performance criteria); and two outcome sets (performance outcomes and costs). Key concepts are so defined that managers can process the data files to obtain desired evaluations. Assumptions implicit in the total approach, as well as those implicit in the model's structure, are discussed briefly. A related document is EA 002 947. (Author)

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COMPREHENSIVE PLANNING FOR SCHOOL DISTRICTS*

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The purpose of this presentation is to describe a method for comprehensive planning for evaluating and changing school systems. Comprehensive planning is system-wide planning. It suggests that the administrator evaluate alternatives with awareness of their implications for the school district. This is in contrast to planning activities which are structured for sub-optimal decision-making.

One of the major needs in administering a school system is a technique capable of relating outputs to costs. This need is dramatized by the increasing demand for a small supply of educational dollars.

A Programming-Planning-Budgeting System (PPBS) is such an approach. The method, however, is more applicable to the planning of a completely new school system than to planning changes for an existing school system.

A basic problem in applying PPBS, which was created to enhance the design and development of R & D projects, to schools is that it does not lend itself to orderly transition from where a school district is to where the decision-makers want it to be.[1] To be more specific: How does the school district business manager provide for fiscal control during a transition period which

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[1]That is, orderly change is a dynamic systems engineering problem that cannot be handled as a series of static states.

EA 002 949

sees the district change from planning by line-item to planning by objectives? How does the superintendent provide for managerial accountability during a transition period which sees the district change from management of curriculum specialties (e.g. language arts, K-12) to management of objectives (e.g. basic skills, academic inquiry)? Where does decentralized decision-making fit into the PPBS schema? What is the role of the school principal? How do community values and perceptions enter into the decision apparatus?

To add to the complexities and uncertainties of initiating a PPBS approach, some school boards, who shall go unnamed in this presentation, have mandated to their superintendents that "you will have a PPBS operational by next September." (This directive comes about in February or March of the year targeted for "installation").

Another planning approach which relates gains to costs is Benefit-Cost Analysis. The method evaluates public-sector investments in the same way a banker assesses private-sector investments. When a banker evaluates an investment he considers the stream of incomes and costs over the lifetime of the venture. He knows that the receiving of $1000 ten years from now is worth less than $1000 received today because he can invest the $1000 and receive $2000 ten years hence.

There are three main problems in using Benefit-Cost Analysis to provide a basis for school district decisions.

1) The superintendent of a school system is continually bombarded by <u>immediate pressures</u>. He is forced to show results now. In a well-balanced community, the superintendent will be able to trade off some of the desire for present-period results for expected improvements in the future. But only the most farseeing of communities

will allow costly future-oriented programs to be initiated at the expense of the present. In planning at the national level, the president must use a form of Benefit-Cost Analysis, but the superintendent, as a result of many years of improper planning at the local level, is not allowed this basic necessity for planning his school system.

2) Benefit-Cost Analysis requires that benefits and costs be translated into common units (typically dollars). This is usually an unmanageable problem since the benefits of education are, in general, <u>intangible and incommensurable</u>.

3) A discount rate <u>must</u> be chosen in order to adjust future benefits and costs to present-value terms. But there is a genuine problem--<u>how does one select a discount rate for the intangibles</u>? Several studies have pointed out that the choice of discount rate (e.g. 4% versus 5%) is sufficient to seriously alter the rankings of alternatives being considered.

Benefit-Cost Analysis does have potential for assessing alternative educational investments, especially when major changes with long range implications are being considered (e.g. school-building problems). But, as a method for suggesting change, it has been over-sold to local school systems.

Thus far, we have been critical of some suggested approaches to school system planning. What is needed, according to this criticism, is a planning method which permits the decision-maker to emphasize the present and immediate future and, at the same time, which allows the school district to <u>assimilate</u>

the planning mechanism during an orderly transition period. What is happening is that the planning system itself is causing change.

Comprehensive planning incorporates this into a theoretically based planning structure.[2] There are ten data files necessary to generate planning outputs -- two are involved with socio-political survey information and pupil needs assessment; three are structural (overall objectives, activities, and coefficients which link activities to overall objectives); two are judgemental (performance criteria and value assignments); two are outcome files (performance and costs); and one is an alternative file.

The data are processed to reflect school system capability according to educational criteria (effectiveness) and economic criteria (effectiveness-cost). The diagram on the next page outlines comprehensive planning information flows. Boxes are numbered for reference. Since various school district personnel are involved at each stage of the analysis, references to an individual, such as the superintendent, do not necessarily prescribe who should do what.

A reasonable beginning includes familiarization with literature on the district's programs and activities, statements of objectives, and policy. From this information a tentative set of overall school district objectives is defined (Box 1). These objectives, perhaps numbering between 7 and 15, serve as broad targets for the school district's activities. The criterion of adequacy for overall objectives is indeed pragmatic -- i.e., the ease with which the activities to be evaluated can be distributed to overall objectives by the

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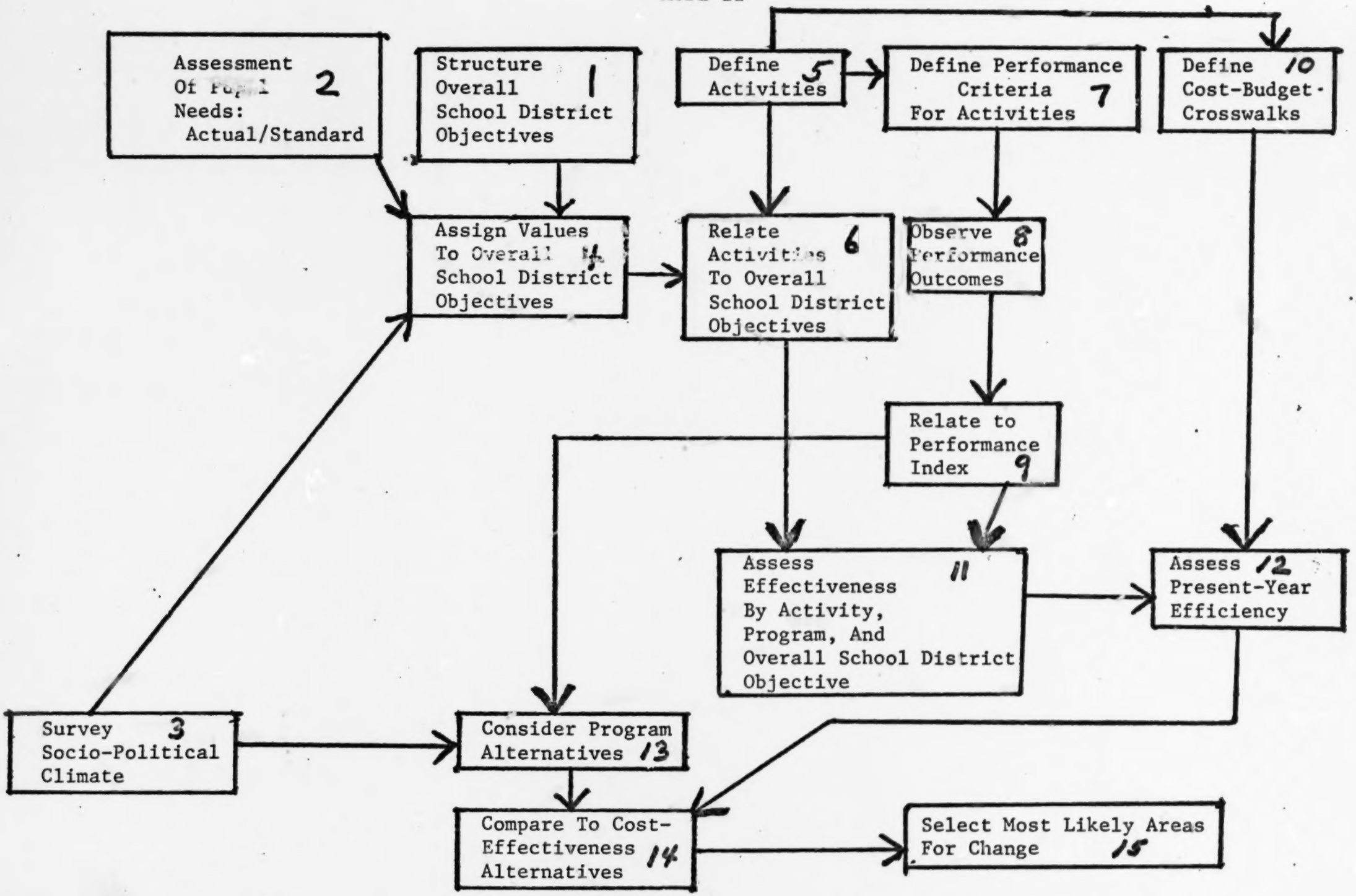
[2]Temkin, Sanford. A Theory of Cost-Effectiveness. Philadelphia: Research for Better Schools, Inc., March, 1970.

COMPREHENSIVE PLANNING MODE II


Assessment Of Pupil Needs: Actual/Standard 2
Structure Overall School District Objectives 1
Define Activities 5
Define Performance Criteria For Activities 7
Define Cost-Budget-Crosswalks 10
Assign Values To Overall School District Objectives 4
Relate Activities To Overall School District Objectives 6
Observe Performance Outcomes 8
Relate to Performance Index 9
Assess Effectiveness By Activity, Program, And Overall School District Objective 11
Assess Present-Year Efficiency 12
Survey Socio-Political Climate 3
Consider Program Alternatives 13
Compare To Cost-Effectiveness Alternatives 14
Select Most Likely Areas For Change 15

decision-makers. As the planning process moves forward the need to change the initial group of overall school district objectives may emerge.

Pupil needs assessment (Box 2) is necessary for the same reasons that consumer utility is required to study micro-economics and the "theory of the firm". A rational consumer will purchase a unit of a commodity only if he derives a greater utility from that unit than from a unit of any other commodity (he must also live within his budget). Without pursuing this to extensive detail, it is clear that it may be preferred, for instance, to give a particular child an additional hour of social studies per week rather than an hour of physical education; yet a policy may exist which dictates that each child is to receive four hours of physical education per week. Meaningful needs assessment may enable the administrator to challenge such policies, or given that these policies exist, at least, he can direct the flow of educational services to the needs of students in a more relevant manner.

From the flow diagram it is seen that needs assessment data and community based information (Box 3) serve as essential inputs to the planning process. These inputs contribute to value assignments given to overall objectives (Box 4).[3] Assigning values or weights to objectives is not done in educational planning systems, although transportation planning, for instance, often incorporates this vital step. It is evident that to leave objectives unweighted is an implicit statement that they are of equal importance. Priority rankings

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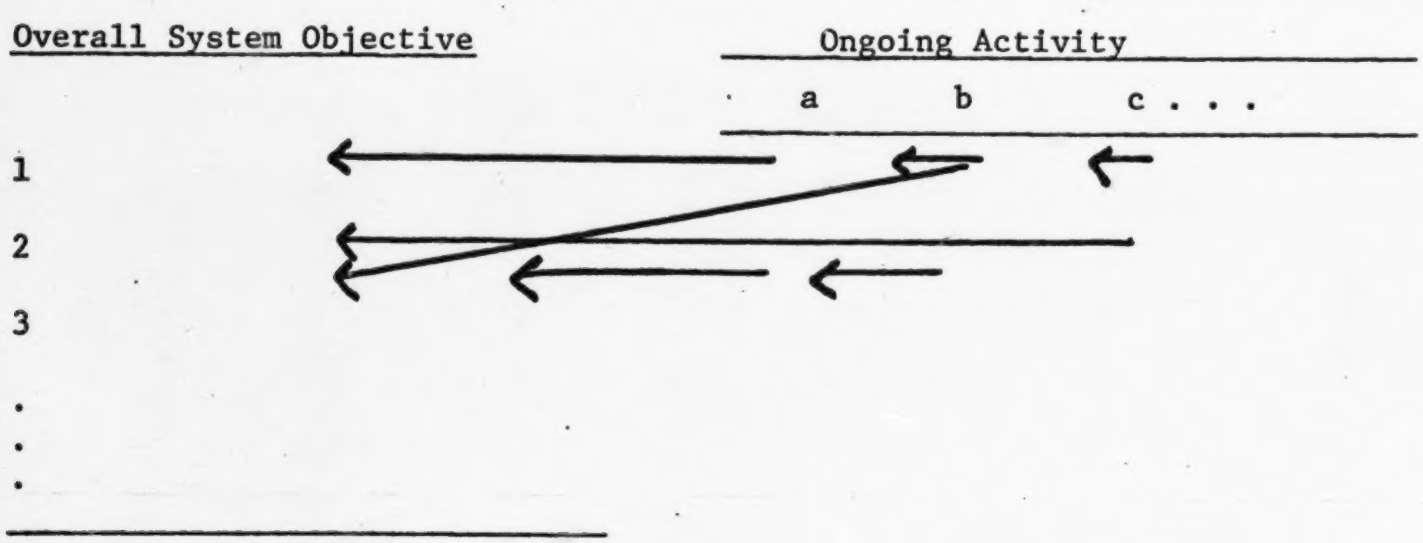
[3]Work is presently being done to develop data gathering methods based on a socio-political approach, with which RBS has experience, to urban school systems. Also developmental effort is being directed to needs assessment methods based on "Pupil-Event Analysis".

provide a little help toward understanding what a system should be doing but the crux of the question is -- do I produce all of priority one at the expense of priority two, or what? More will be said about the importance and relevance of value assignments later in this presentation.

Activities are defined (Box 5). Experience indicates that the concept of activity as a discrete element of the system, which can be isolated in terms of responsibility and cost, does not lend itself to study of cognitive sub-systems e.g. Mathematics K-12.

Relating these activities, or in the case of cognitive sub-systems cognitive blocks, to overall district objectives brings expert judgements from within the school district to structure a set of activity coefficients (Box 6). These coefficients estimate the potential importance of each activity in terms of its overall objective.[4] This is realistic since every decision implicitly assigns performance potentials and performance estimates to the alternatives under consideration. Figure 2 indicates the gross nature of these relationships.

Figure 2: Ongoing activities alined by overall system objective.



[4]A few authors have emphasized the need for knowing more about the production function in education. See, for example Richard I. Miller or Jesse Burkhead.

Performance criteria are defined for each activity (Box 7). Once a criterion is specified the possible outcomes are mapped onto a performance index which ranges from 0 to 1.0. When outcomes are actually observed (Box 8) they are translated into a performance outcome in accord with the mapping transformation (Box 9).

Costs are tracked by traditional line-item as well as by overall objective and activity. Three distinct cost breakdowns result (Box 10):

1) Costs by line-item and overall objective

2) Costs by line-item and activity

3) Costs by overall objective and activity

The first two cost breakdowns allow for the maintenance of the present accounting system. A transition to the third mode should be effected in a few years.

If the budget were prepared along Mode 3 lines, then few accounting problems would arise. But this presupposes that district personnel have structured their thinking and budgeting in terms of objectives and activities. Since this is not even a remote possibility, the approach to comprehensive planning for the first year is expected to yield less than satisfactory cost information. Once, however, the basic structure and feel for the planning process is shared by school district personnel it is reasonable to expect better planning on the cost side. A fair expectation is that a budget showing anticipated expenditures by overall objective and activity for the second year will be produced by school district planners.

Outputs

Outputs are of two general types: 1) evaluation of the district's productivity during the present year, and 2) recommendations for change for the next year.

Each activity has been assigned a value in accord with its potential importance or contribution to the operating system (Box 6). In addition, a criterion has been designed which gives an indication of the extent to which the activity has performed. When a activity performs perfectly (1.0 on the performance index), its full value is realized by the school district and it is said to be totally effective. The effectiveness of an activity, in this framework, is the performance of the activity weighted by its potential for contributing to the system. This implies that if two activities perform equally, the one with the higher potential value is more effective from the point of view of a system-wide evaluation.

Once the concept of combining potential for contribution and actual performance is accepted, then evaluative outputs can be obtained (Box 11). These outputs can be generated in each of three frames of reference: 1) by activity, 2) by groups of activities (programs), and 3) by overall objective. Specification of output format depends entirely on the questions initiated by decision-makers.

Costs can also be used to evaluate (Box 12) but the main value in cost analysis lies in future-period considerations. Low effectiveness/cost ratios in the present year may indicate good potential for expenditure next year. In fact, it is only after examining the various effectiveness-cost curves that efficiency becomes a meaningful consideration. Figure 3 shows a

effectiveness-cost curve.

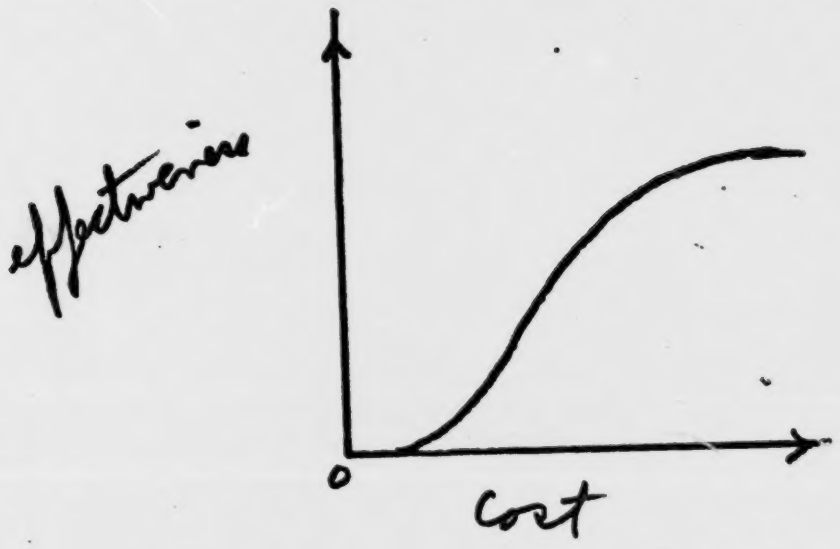


Figure 3

At this point program alternatives (Box 13), which have been contributed during the school year, to what is presently being done are introduced. Two kinds of change are possible: 1) incremental i.e. put a different level of resource committment into the activity, and 2) complete i.e. change the activity.

Another source of recommended change is the socio-political information referred to previously (Box 3).

It is important to recognize that outputs reflect not only objectives, performance criteria, and performance outcomes but also a single set of value assignments. This suggests that alternative sets of value assignments may be studied for their implications for change. These could include value sets of an individual school board member, or a spokesman for a community group, or a student in the school system. The planning process will permit the decision-maker to evaluate existing school operations and recommend changes consistent with each alternative value set he introduces.

Finally, a new budget may be prepared with reasonable assurance that the changes recommended can be substantiated and that, in fact, these changes will result in an improved productivity for the given level of educational resources.

In summary, a method has been hastily described which focuses on planning and decision-making functions of school districts by relating inputs and outputs to their value structures implied or inherent, conscious or otherwise. The method proceeds from a basic assumption that in order to make future-oriented resource allocation decisions, the administrator must thoroughly understand where he has been and where he is. It aims at evaluating the existing system in order to develop data and information flows which invite exploration of future-period resource allocation questions.

An implicit but necessary condition for using this method in planning a school system is that school planners need and understand the process. There is very little in change that doesn't involve basic changes in the attitudes of the participants of change.

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